WM-R55

SERVICE MANUAL

Refer to MDR-E242 or MDR-A20L Service Manual issued previously for information of headphones supplied with this set.

AEP Model
UK Model
E Model

'Dolby' and the double-D symbol are the trade marks of Dolby Laboratories Licensing Corporation. Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

SPECIFICATIONS

Recording system	4-track 2-channel stereo
Fast winding time	Approx. 2 min. 30 sec. with Sony C-60 cassette
Speaker	Approx. 3.6 cm ($1\frac{7}{16}$ inches) dia.
Frequency response	(DOLBY NR OFF) 50–10,000 Hz 40–15,000 Hz (playback) (with the PB EQ selector set to NORM) 40–15,000 Hz (playback) (with the PB EQ selector set to METAL/CrO_2)
Input	External microphone (stereo minijack) sensitivity 0.2 mV (–72 dB) for low impedance microphone
Output	Headphones (stereo minijack) load impedance 8–300 ohms or higher than 10 kohms
Power output	Speaker: 160 mW (4 ohms) (at 10% harmonic distortion) Headphones: 6 mW + 6 mW (18 ohms) (at 10% harmonic distortion)
Power requirements	3 V dc two IEC designation R6 batteries (size AA) DC IN 3 V jack accepts: optional Sony AC-D2 ac power adaptor available in the United Kingdom for use on 240 V ac, 50 Hz available in European countries for use on 220 V ac, 50 Hz available in other countries for use on 120 or 220 V ac, 50/60 Hz optional Sony EBP-500 battery case for use on two IEC designation R20 batteries (size D) optional Sony DCC-70 car battery cord for use on 12 V car battery

Tape Transport Mechanism Type | MT-WM R55-30

Battery life

Batteries	Recording	Playback (headphones)	Playback (speaker)
Supplied Sony SUM-3(NS) New Super batteries	Approx. 3.5	Approx. 5	Approx. 4.5
Sony Eveready AM3 alkaline batteries	Approx. 9	Approx. 12	Approx. 11.5

(hours)

Dimensions	Approx. 110 × 81.5 × 31 mm (w/h/d) ($4\frac{3}{8} \times 3\frac{1}{4} \times 1\frac{1}{4}$ inches) not incl. projecting parts and controls Approx. 111.8 × 88.8 × 33.2 mm (w/h/d) ($4\frac{1}{2} \times 3\frac{1}{2} \times 1\frac{5}{16}$ inches) incl. projecting parts and controls
Weight	Approx. 280 g (9.9 oz) incl. batteries not incl. other accessories

FEATURES

- Auto-reverse function changes the tape playback and recording direction without turning the cassette over.
- Small-size one-point stereo microphone supplied.
- Built-in monaural speaker.
- **Dolby NR system** reduces tape hiss noise in the playback mode.
- Radio/TV broadcasts can be received when you use an optional CTP-1A FM/AM tuner pack.
- During playback of the front side of the cassette, simply depress the ● button, and the recorder will immediately change to the recording mode.
- The LOCK/PAUSE switch prevents accidental recording or playback during carriage.

STEREO CASSETTE CORDER

SONY

MICROFILM

TC

WM-R55

SERVICE MANUAL

Refer to MDR-E242 or MDR-A20L Service Manual issued previously for information of headphones supplied with this set.

AEP Model
UK Model
E Model

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SPECIFICATIONS

Recording system	4-track 2-channel stereo
Fast winding time	Approx. 2 min. 30 sec. with Sony C-60 cassette
Speaker	Approx. 3.6 cm ($1^{7}/_{16}$ inches) dia.
Frequency response	(DOLBY NR OFF) 50–10,000 Hz 40–15,000 Hz (playback) (with the PB EQ selector set to NORM) 40–15,000 Hz (playback) (with the PB EQ selector set to METAL/CrO_2)
Input	External microphone (stereo minijack) sensitivity 0.2 mV (–72 dB) for low impedance microphone
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Tape Transport Mechanism Type	MT-WM R55-30

Battery life

Batteries	Recording	Playback (headphones)	Playback (speaker)
Supplied Sony SUM-3(NS) New Super batteries	Approx. 3.5	Approx. 5	Approx. 4.5
Sony Eveready AM3 alkaline batteries	Approx. 9	Approx. 12	Approx. 11.5

(hours)

Dimensions	Approx. 110×81.5×31 mm (w/h/d) ($4^{3}/_{8}$×$3^{1}/_{4}$×$1^{1}/_{4}$ inches) not incl. projecting parts and controls Approx. 111.8×88.8×33.2 mm (w/h/d) ($4^{1}/_{2}$×$3^{1}/_{2}$×$1^{5}/_{16}$ inches) incl. projecting parts and controls
Weight	Approx. 280 g (9.9 oz) incl. batteries not incl. other accessories

FEATURES

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MICROFILM

STEREO CASSETTE CORDER

SONY

TC

SERVICING NOTE

Replacing chip components

All chip components should be connected and disconnected, using a tapered soldering iron [temperature of the iron tip: less than 280°C (536°F)], a pair of tweezers and braided wire.

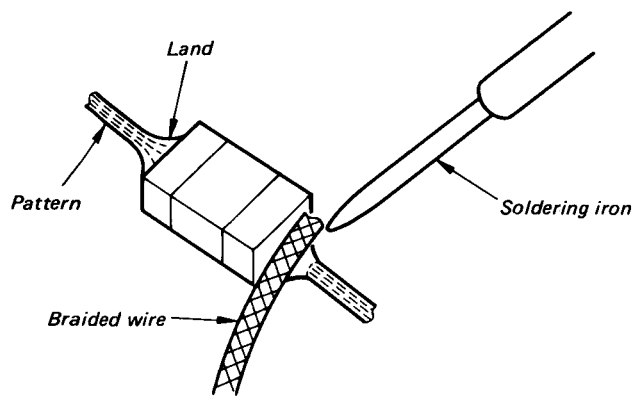
Precautions for replacement

1. **Do not disconnect the chip component forcefully. Otherwise, the pattern may peel off.**
2. **Never re-use a disconnected chip component. Dispose of all old chip components.**
3. **To protect the chip component, heating time for attaching the component should be within 3 seconds.**

○ **Removing chip components**

(1) Removing solder at electrode

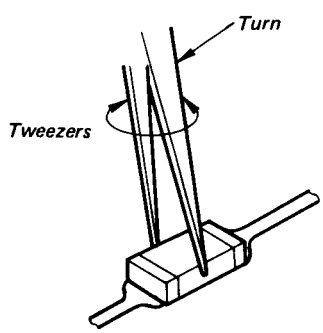
Remove the solder at the electrode, using a thin braided wire. Do not remove the solder of the part (chip component) attached adjacent to the electrode.



(2) Disconnecting chip components

Turn the tweezers with the soldering iron alternately applied to both electrodes, and the chip component will be disconnected. Take careful precautions while disconnecting, because if the chip component is forcefully removed the land may peel off.

Never re-use a disconnected chip component.



(3) Smoothing the soldered surface

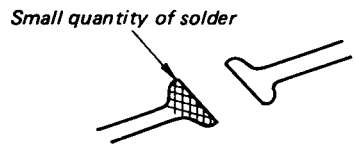
After disconnecting the chip component, remove the solder by using a braided wire to smooth the land surface.

○ **Connecting chip components**

The value of chip components is not displayed on the main body. Take due precautions to avoid mixing new chip components with other ones.

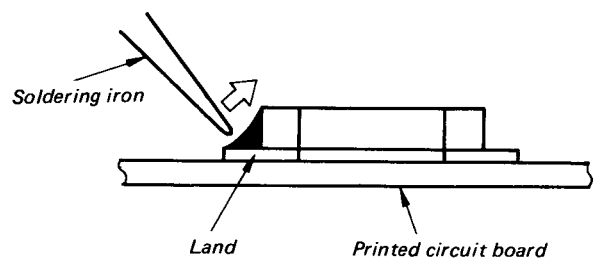
(1) Applying solder to land on one side

Apply a thin layer of solder to the land on one side where the chip component is to be connected. Too much solder may cause bridging.



(2) Speedy soldering

Hold the chip component at the desired position, using tweezers, and apply the soldering iron in the arrow-marked direction. To protect the chip component, heating time should be within 3 seconds.



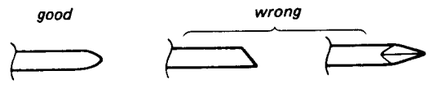
(3) Speedy soldering of electrode on the other side

Solder the electrode on the other side in the same way as in (2) above.

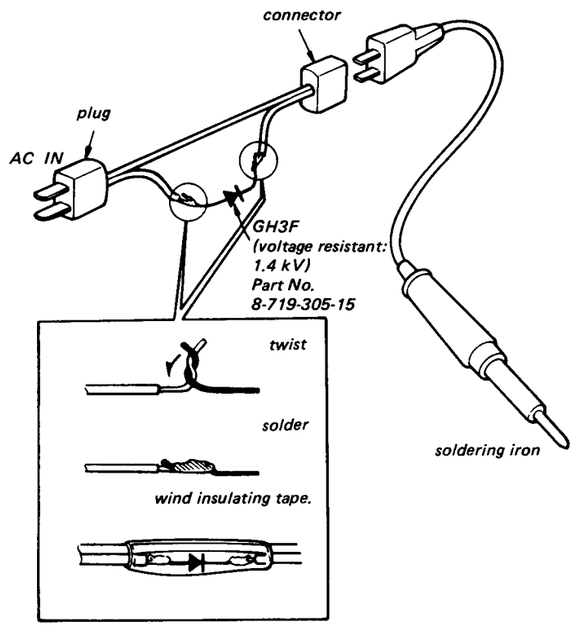
Flexible Circuit Board Repairing

1. Keep the temperature of the soldering iron at 270° ± 10°C during repairing.
   You can maintain the temperature of the soldering iron around 270°C by using the thermal controller as illustrated on the right.
2. Do not touch the soldering iron more than 4 seconds or 3 times on the same conductor of the circuit board.
3. Do not apply force on the conductor when soldering or unsoldering.

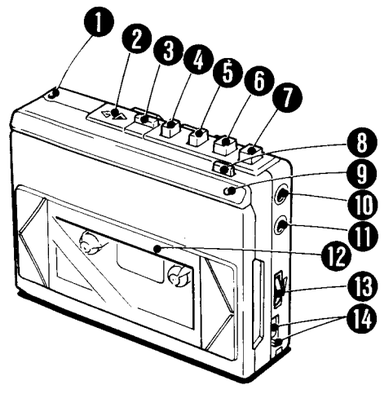
Tip of soldering iron

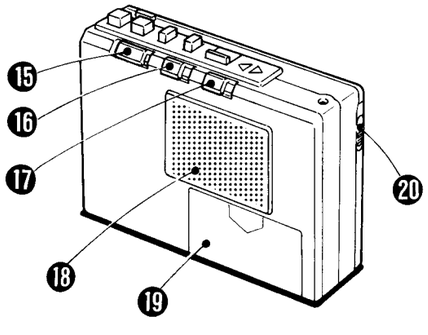


To make thermal controller of soldering iron



PARTS IDENTIFICATION

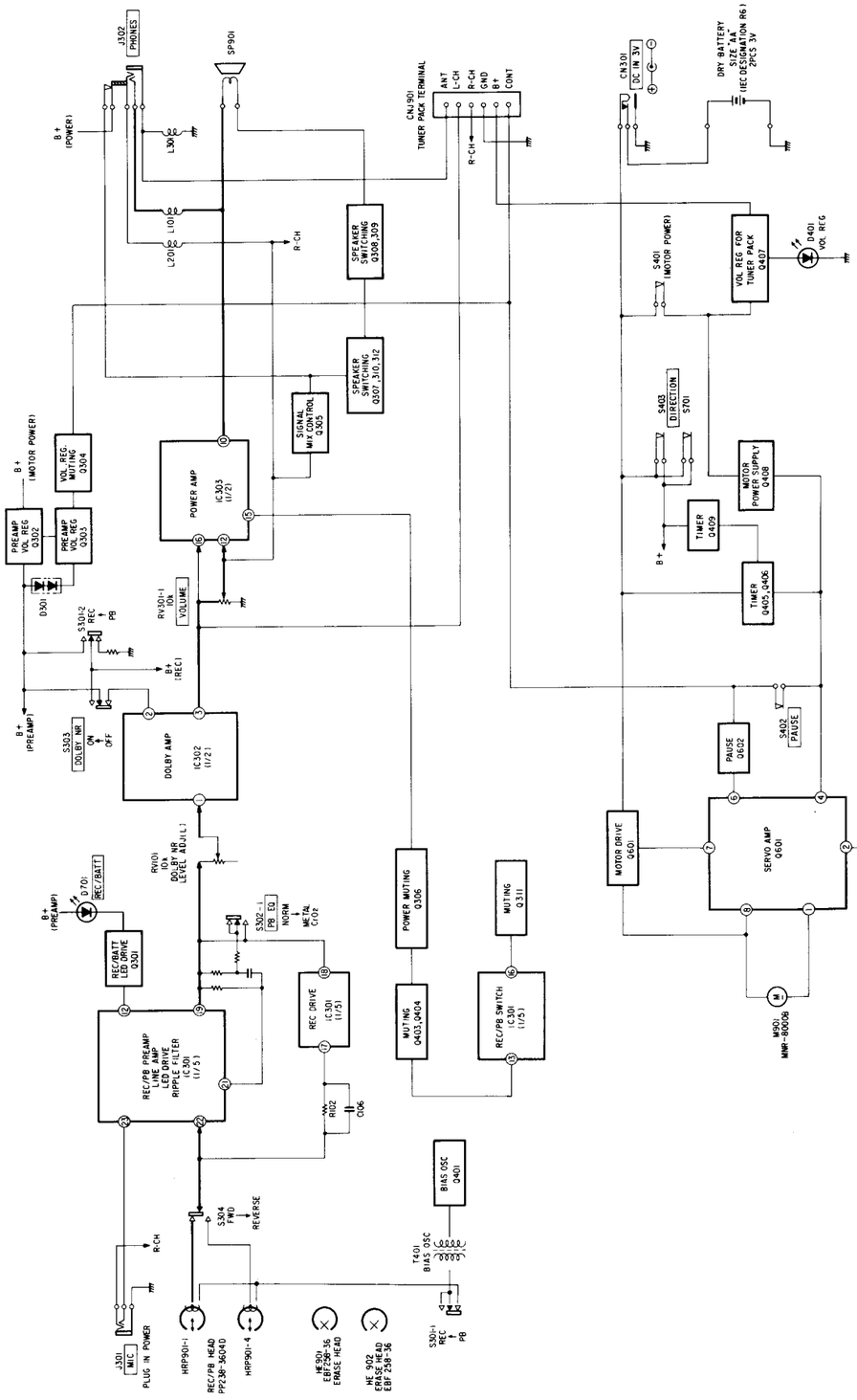




❶ DC IN 3 V (external power input) jack
❷ ◀|▶ FWD/REV (the tape transport direction) indicator
❸ DIRECTION (the tape transport direction change) button
❹ ◀◀ (fast forward) button
❺ ▶▶ (fast reverse) button
❻ ◀ PLAY (playback) button
❼ ● REC (record) button
❽ ■ STOP button
❾ REC/BATT indicator
❿ MIC (microphone) (PLUG IN POWER) jack (stereo minijack)
⓫ PHONES (headphones) jack (stereo minijack)
⓬ Cassette compartment
⓭ VOLUME control
⓮ Tape counter and reset button
⓯ LOCK/PAUSE switch
⓰ PB EQ (playback equalizer) selector
⓱ DOLBY NR (PB) (playback) switch
⓲ Speaker
⓳ Battery case (rear)
⓴ OPEN (the cassette compartment lid open) knob.

SECTION 1
OUTLINE

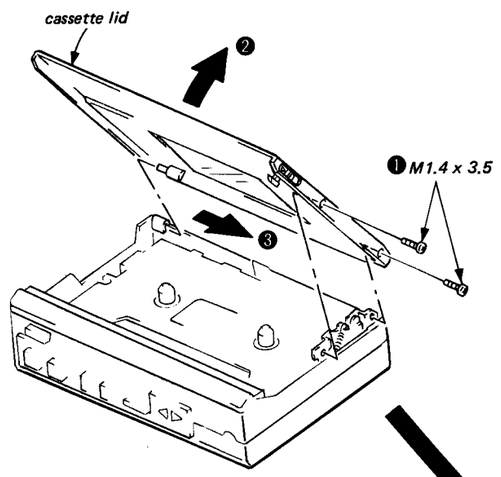
BLOCK DIAGRAM



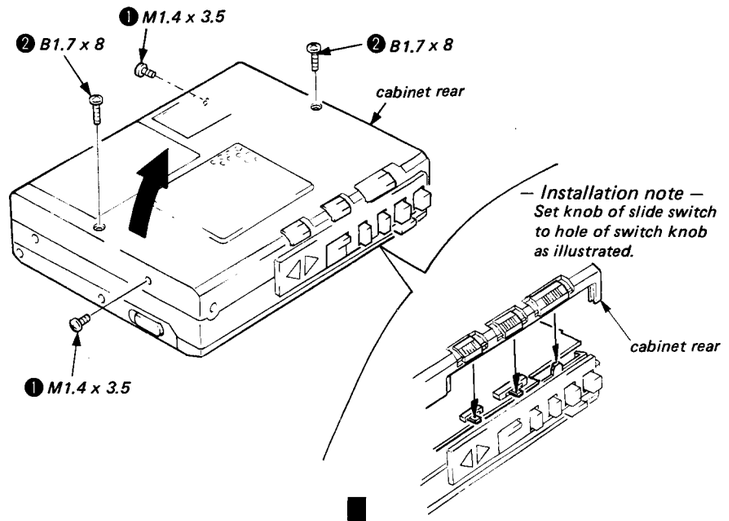
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure the numerical order given.

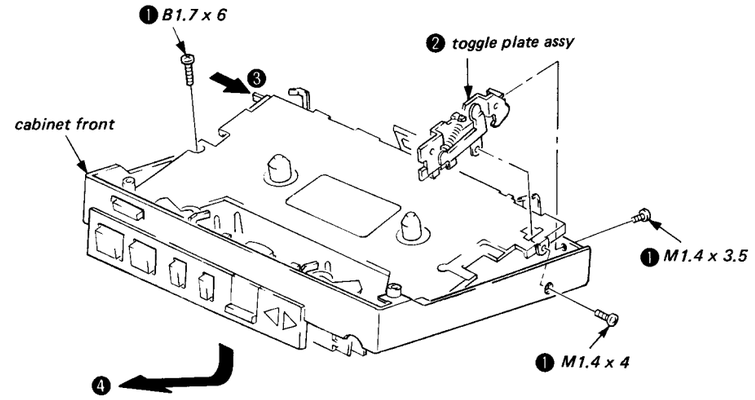
CASSETTE LID



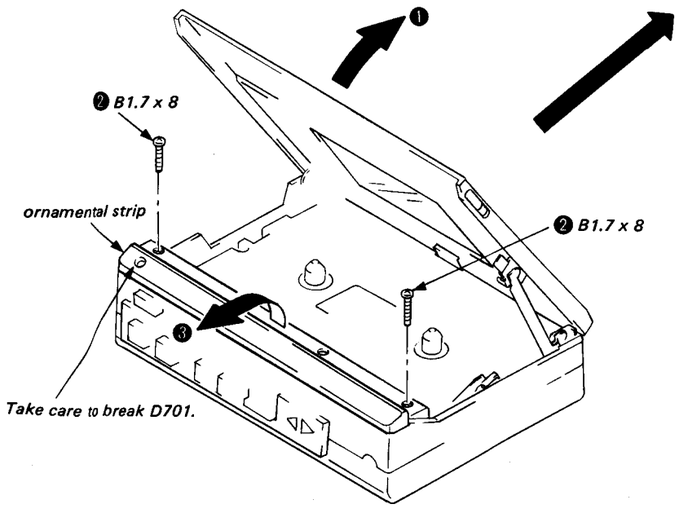
CABINET REAR


❶M1.4 x 3.5
❷B1.7 x 8
❷B1.7 x 8
cabinet rear
❶M1.4 x 3.5
— Installation note —
Set knob of slide switch to hole of switch knob as illustrated.
cabinet rear

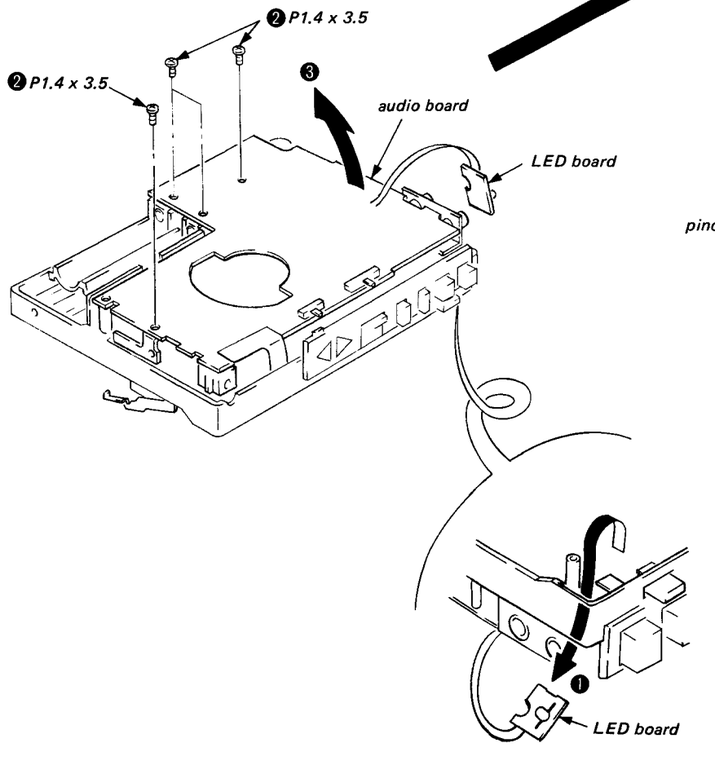
CABINET FRONT



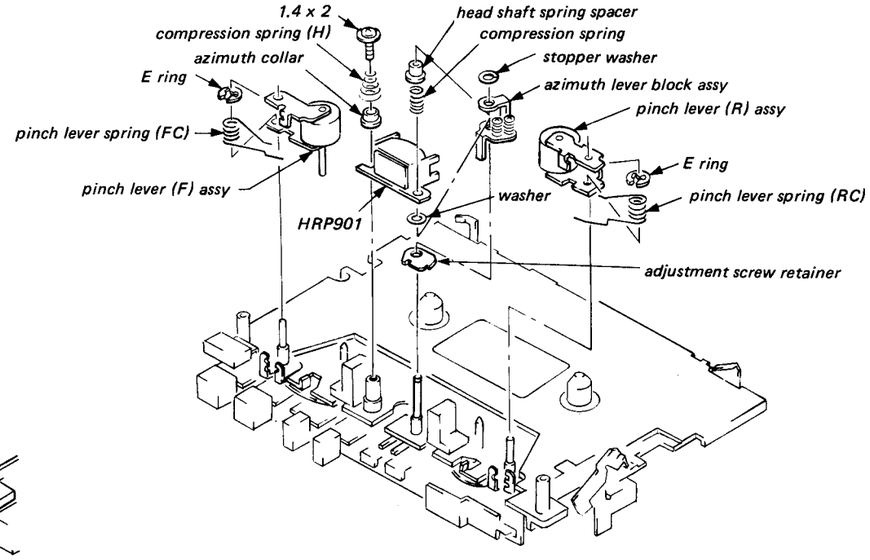
ORNAMENTAL STRIP



AUDIO, LED BOARDS



REC/PB HEAD, PINCH LEVER



SECTION 3
ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:

REC/PB head	pinch roller
capstan	rubber belts
erase head	idler

2. Demagnetize the REC/PB head with a head demagnetizer.
   (Take care not to demagnetize the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. The adjustments should be performed with the rated power supply voltage (2.5V) unless otherwise noted.

3-1. MECHANICAL ADJUSTMENTS

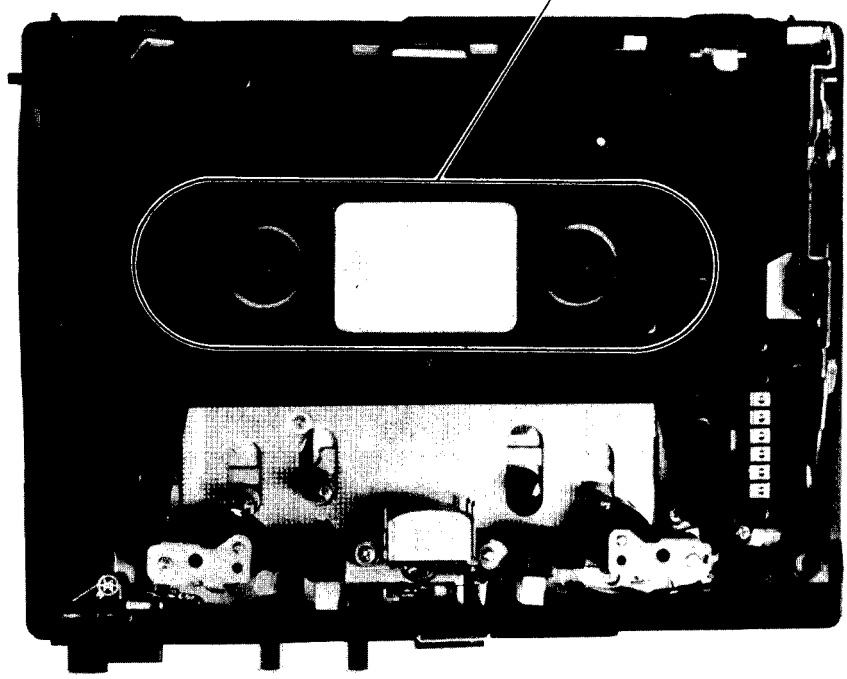
Torque Measurement

Perform with 2.5V DC power.

	Torque meter	Meter reading
FWD	CQ-102D	23–50 g-cm 0.32–0.69 oz-inch
FWD Back tension	CQ-102D	0.5–5 g-cm 0.0069–0.069 oz-inch
REV	CQ-102RC	23–50 g-cm 0.32–0.69 oz-inch
REV Back tension	CQ-102RC	0.5–5 g-cm 0.0069–0.069 oz-inch
FF/REW	CQ-201B	more than 60 g-cm more than 0.83 oz-inch

Tape Tension Measurement

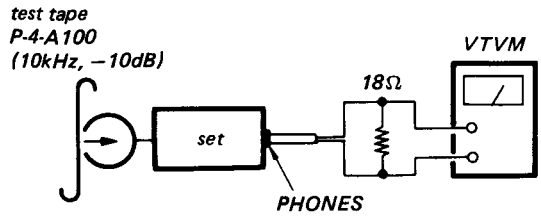
Tension	Tension meter	Meter reading
FWD	CQ-403A	more than 60 g (0.83 oz)
REV	CQ-403R	



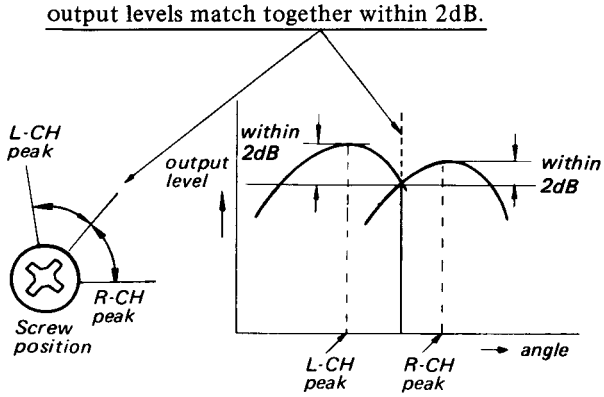
Record/Playback Head Azimuth Adjustment

Procedure:

1. Mode: playback (FWD direction)

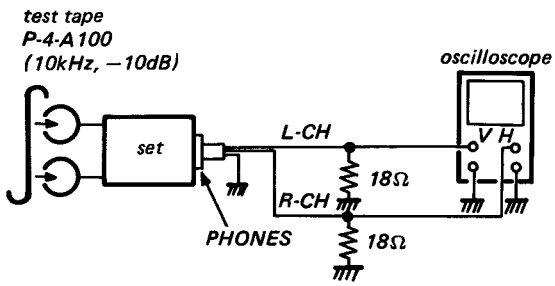


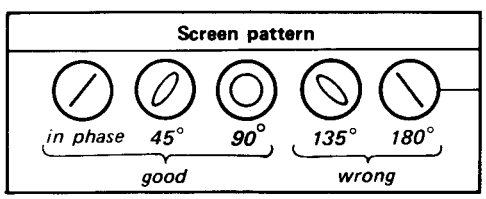
2. Turn the adjustment screw (FWD direction) for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 2dB.



Note) The adjustment should be completed by turning screw clockwise.

3. Phase Check
   Mode: playback





4. Set in reverse direction and repeat Step 1 – 3.

   Note: Turn the REV adjustment screw.

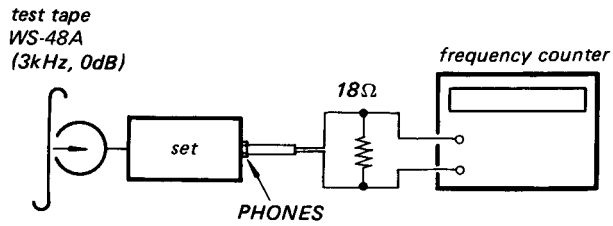
Tape Speed Adjustment

Setting:

VOLUME control: mechanical mid

Procedure:

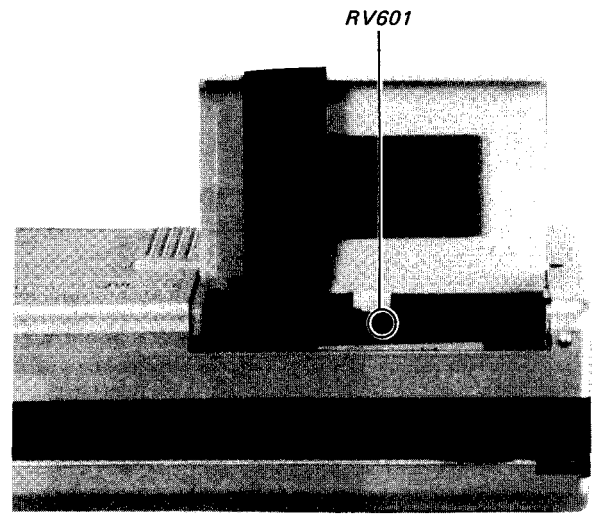
Mode: playback



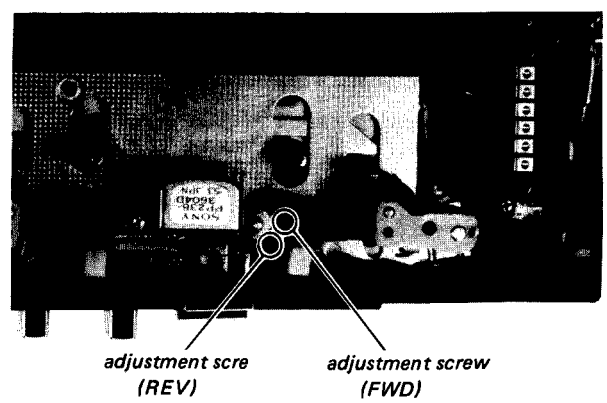
1. Play back center portion of WS-48A in FWD mode. Adjust RV601 so that frequency counter reading is 3000 ±10Hz.
2. Play back center portion of WS-48A in REV mode. Make sure that the frequency difference between step 1 and step 2 is within 1.5% (±45Hz).

   Note: Make sure that difference at beginning and end of tape is within ± 2% (60Hz).

Adjustment Location:



Adjustment Location:



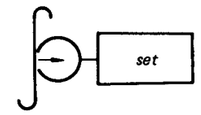
Dolby NR Level Adjustment

Setting:

PB EQ switch:	NORM
DOLBY NR switch:	off
VOLUME control:	MECHANICAL MID

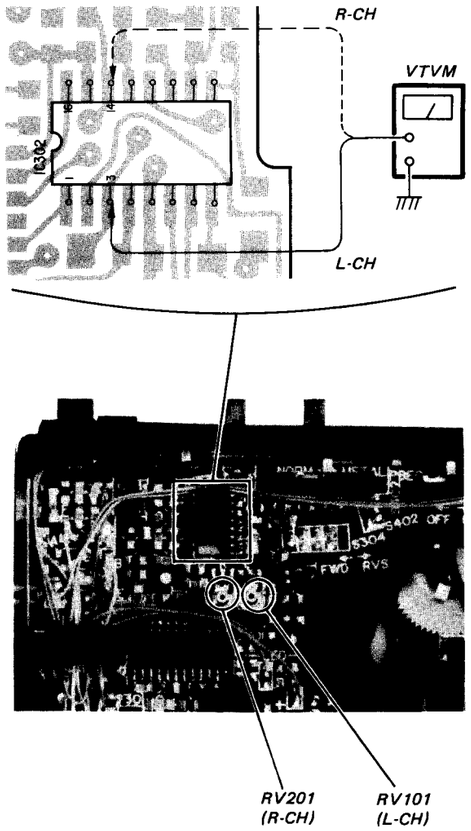
Procedure:

Mode: forward playback



Adjust RV101 (L-CH), RV201 (R-CH) to obtain −27.7dB ±0.2dB (30 – 34mV) output level. Make sure that the specification is met in REV mode.

Adjustment Location: Audio board



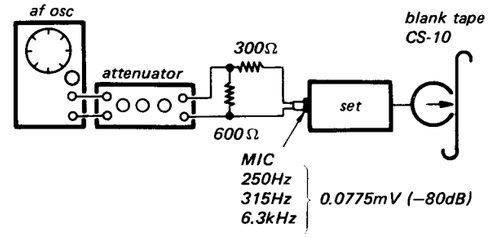
RECORD BIAS ADJUSTMENT

Setting:

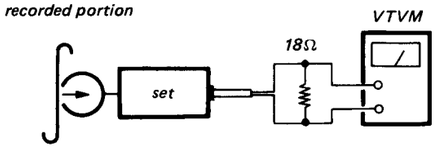
VOLUME control:	MECHANICAL MID

Procedure:

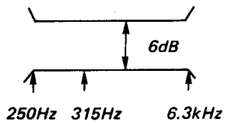
1. Recording Mode



2. Playback Mode



3. Specifications

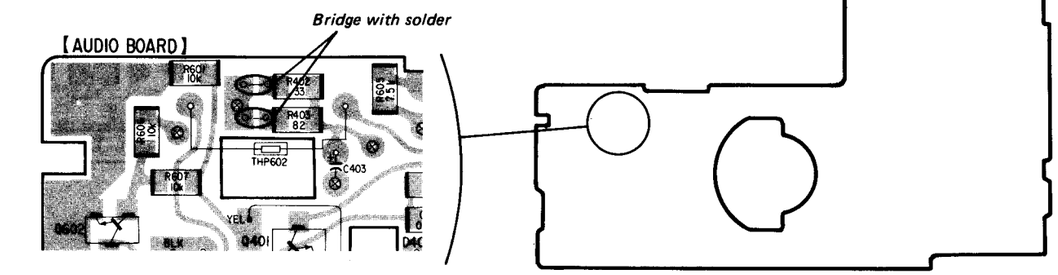


If necessary, change resistor connection and repeat the above step 1 through 3.

○ mark: pattern bridge

R402	R403	6.3kHz output level
○	○	LOW ↕ HIGH
○		
	○	

Adjustment Location: Audio board



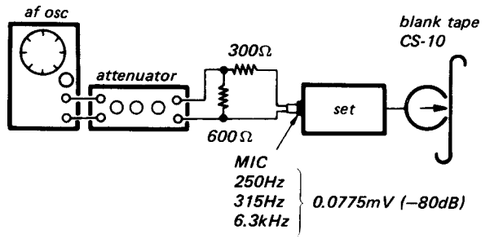
RECORD BIAS ADJUSTMENT

Setting:

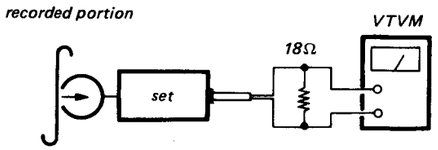
VOLUME control: MECHANICAL MID

Procedure:

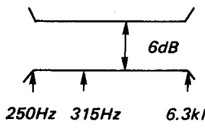
1. Recording Mode



2. Playback Mode



3. Specifications

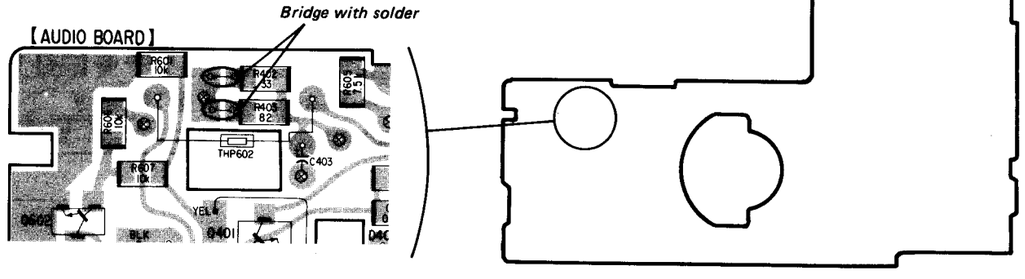


If necessary, change resistor connection and repeat the above step 1 through 3.

○ mark: pattern bridge

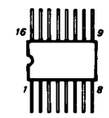
R402	R403	6.3kHz output level
○	○	LOW ↕ HIGH
○		
	○	

Adjustment Location: Audio board

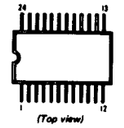


● **Semiconductor lead layouts**

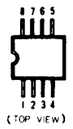
BA5208AF
CX20085



CX20023



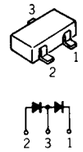
AN6612S



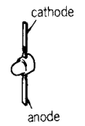
2SB1013
2SD1387

2SA812
2SC1623
2SC2712
DTA114TK
DTC114YK
DTC143TK

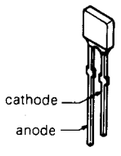
1SS123



SR506D

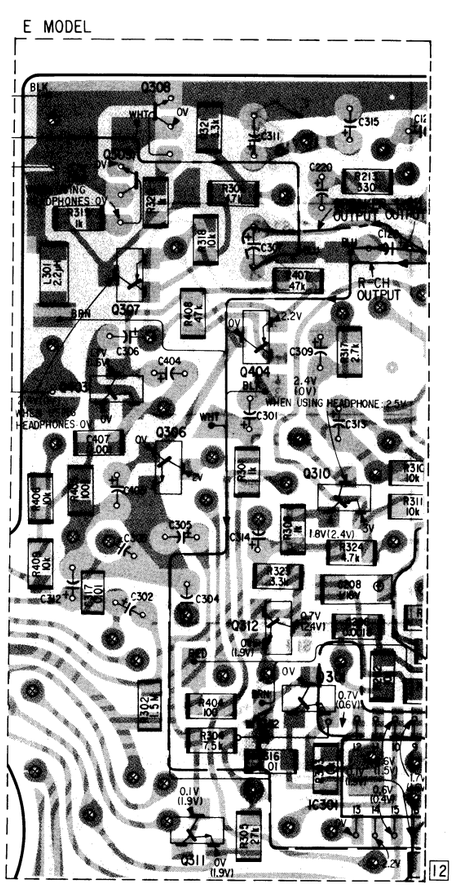


SLP178B



4-1. MOUNTING DIAGRAM

– Conductor Side –



7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

A B C D E F G H I J

602 601 IC601 405 401 406 408 407 409 304 308 309 307 403 306,311 404 312 301 310 IC302 IC301 302 303 305 IC303 Q, IC

401 302 301 701 D

AEP MODEL Serial No, 10.001 – 13.800
UK MODEL Serial No, 13.801 – 14.600

HRP901
REC/PB HEAD
P238-3604D

[HEAD FLEXIBLE RELAY BOARD]

PB INPUT L-CH

SPEAKER OUTPUT

DRY BATTERY SIZE "AA" (IEC DESIGNATION R6) 2PCS 3V

BLU WHT

SP901 SPEAKER

2.4V (0V) WHEN USING HEADPHONES: 0V

[AUDIO BOARD]

THP602

BIAS OSC

S701 DIRECTION

S401 PAUSE

S402 REVERSE FWD

S403 REC

S404 PLAY

S405 FF

S406 REW

S407 STOP

S303 METAL NORM

RV101 RV201

VOLUME

S401 (MOTOR POWER)

S301 L-CH LEVEL

R-CH LEVEL

D701 REC/BATT

[LED BOARD]

J302 PHONES

PB OUTPUT L-CH

PB OUTPUT R-CH

J301 MIC PLUG IN POWER

(Grounded to jack bracket)

DOLBY ON: 1.3V

DOLBY ON: 0.1V

BLK (-) RED (+)

M901 MOTOR MNR-8000B

CNJ901 TUNER PACK TERMINAL

CONT YEL
B+ ORG
GND BLK
R-CH BLU
L-CH VIO
ANT GRY

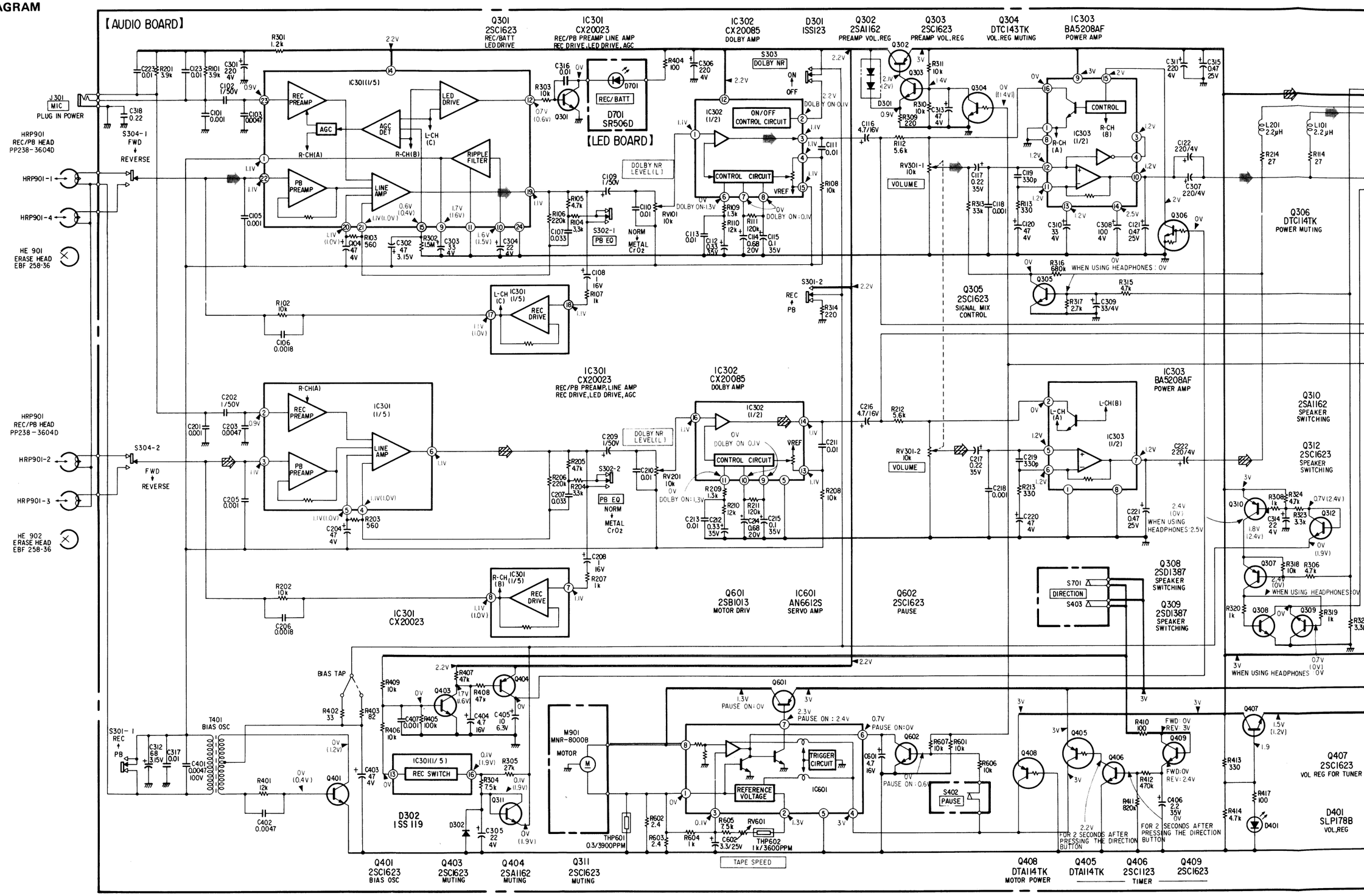
E MODEL

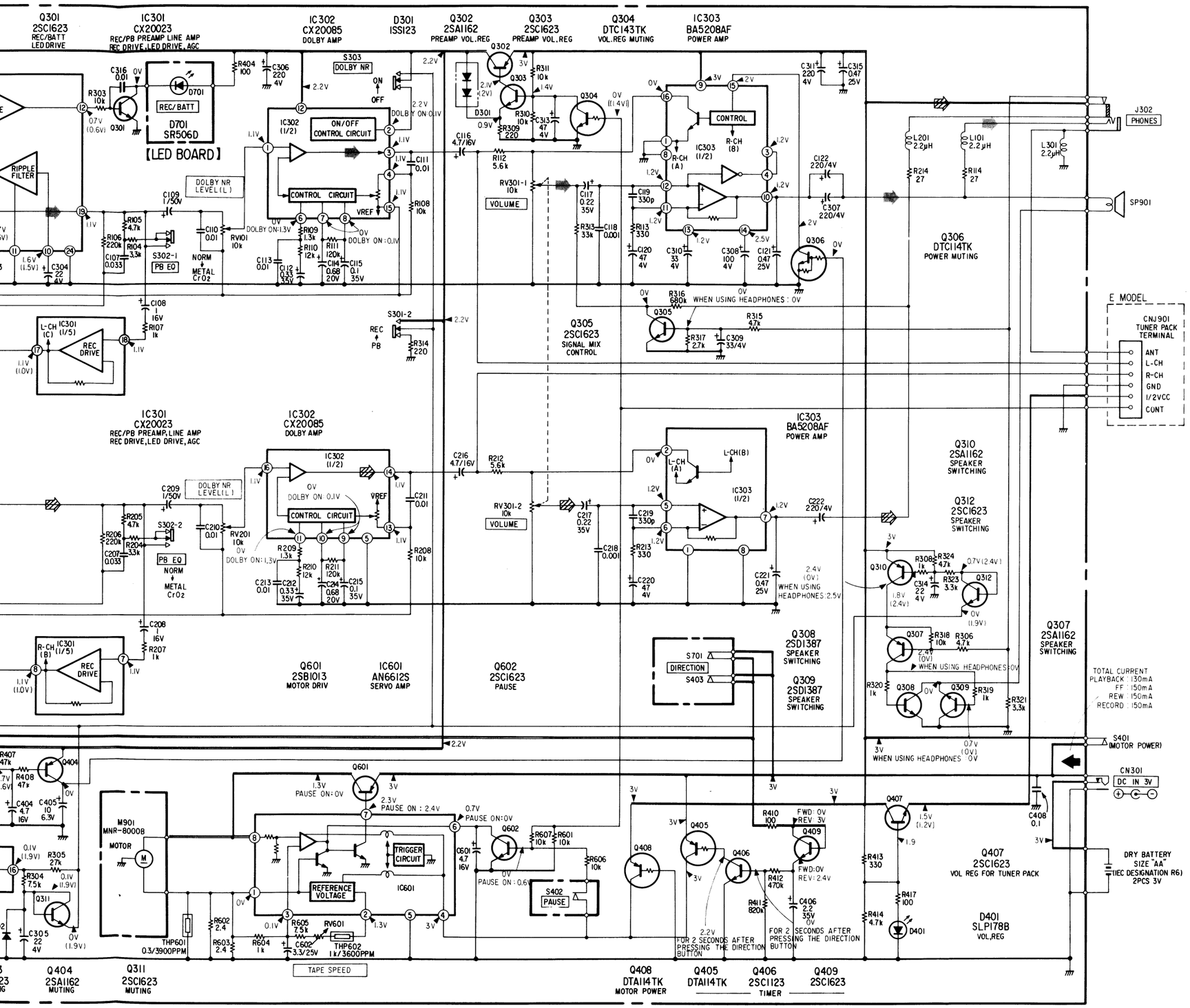
TOTAL CURRENT
PLAYBACK :130mA
FF :150mA
REW :150mA
RECORD :150mA

CNJ301 DC IN 3V

YEL BLK ORG (BLU, VIO, GRY)

4-2. SCHEMATIC DIAGRAM





Note:

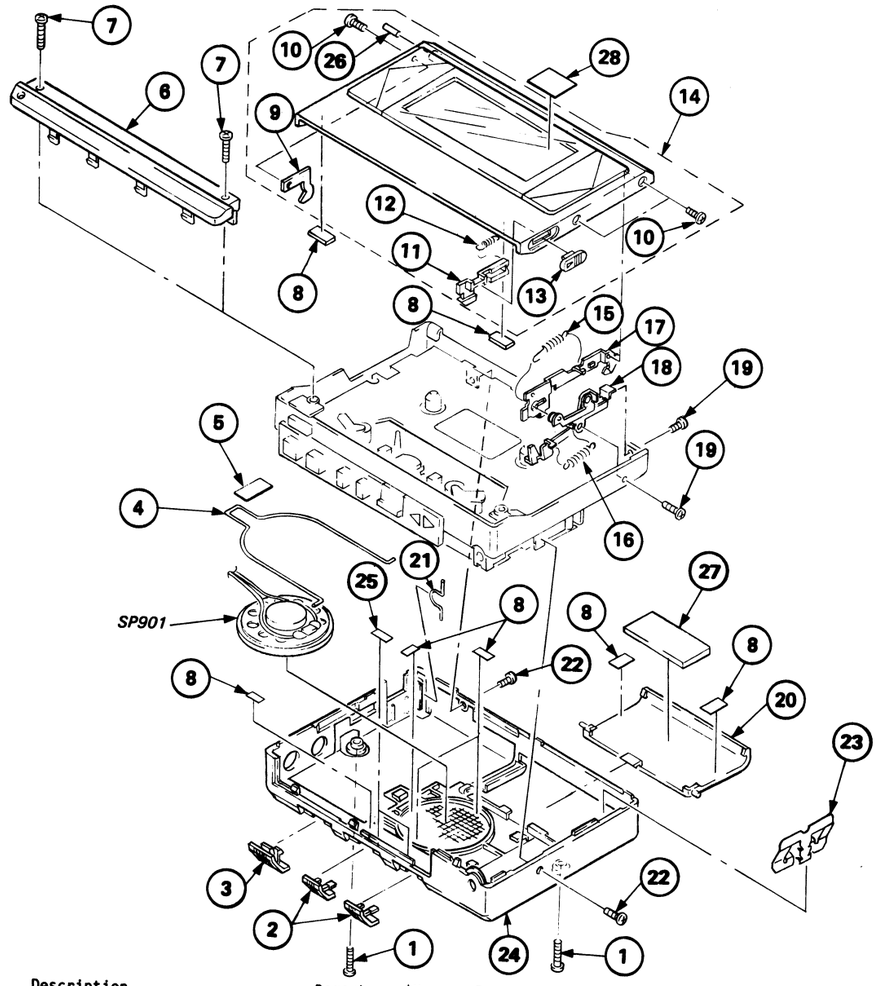
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ▨ : L-CH signal path
- ▨ : R-CH signal path
- ▬ : B+ bus.
- ▭ : adjustment for repair.
- Total current is measured with no cassette installed.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50kΩ/V).
  no mark : PB
  ( ) : REC
- Voltage variations may be noted due to normal production tolerances.
- Switch

Ref. No.	Switch	Position
S301	REC/PB	PB
S302	PB EQ	NORM
S303	DOLBY NR	OFF
S304	FWD/REVERSE	FWD
S401	MOTOR POWER	——
S402	PAUSE	OFF

SECTION 5
EXPLODED VIEWS AND PARTS LIST

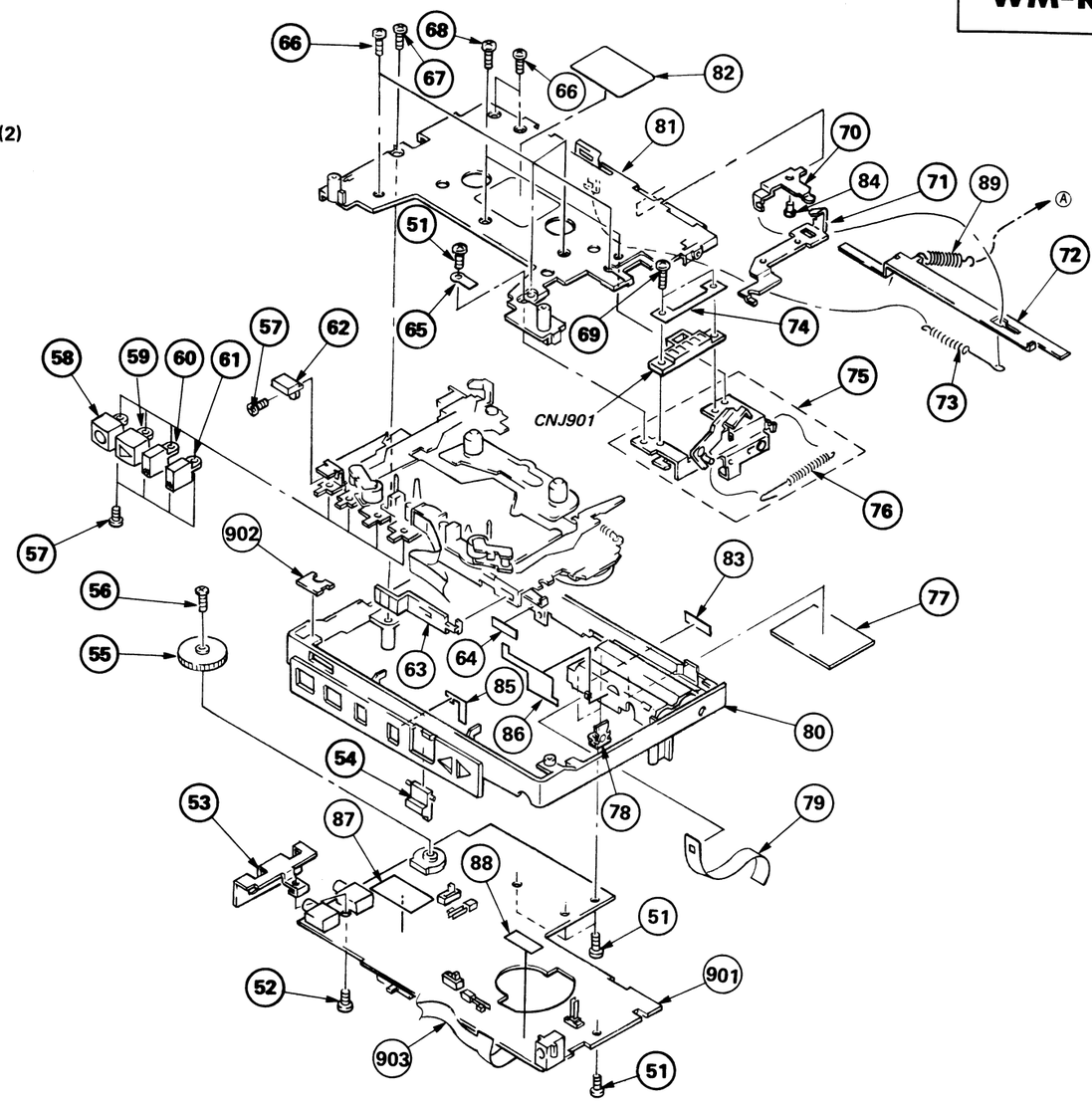
NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

(1)



No.	Part No.	Description	Remarks
1	3-318-203-21	(SILVER)...SCREW (B1.7X8), TAPPING	
	3-318-203-31	(BLACK)....SCREW (B1.7X8), TAPPING	
2	3-326-905-01	(SILVER)...KNOB, SELECTION	
	3-326-905-11	(BLACK)....KNOB, SELECTION	
3	3-326-927-01	(SILVER)...KNOB, SAFETY	
	3-326-927-11	(BLACK)....KNOB, SAFETY	
4	*3-326-907-01	PIN, SPEAKER RETAINER	
5	3-831-441-XX	CUSHION (B)	
6	3-326-926-01	STRIP, ORNAMENTAL	
7	3-318-203-21	(SILVER)...SCREW (B1.7X8), TAPPING	
8	3-831-441-XX	SPACER	
9	3-326-910-01	STOPPER (B)	
10	3-703-816-51	(SILVER)...SCREW (M1.4X3.5), SPECIAL HEAD	
	3-703-816-52	(BLACK)....SCREW (M1.4X3.5), SPECIAL HEAD	
11	3-326-924-01	CLAW, LOCK	
12	3-326-917-01	SPRING, TENSION	
13	3-326-906-01	(SILVER)...KNOB, OPEN	
	3-326-906-11	(BLACK)....KNOB, OPEN	
14	X-3326-908-1	(SILVER)...CASSETTE LID ASSY	
	X-3326-909-1	(BLACK)....CASSETTE LID ASSY	
15	3-326-922-01	SPRING, TENSION	
16	3-326-920-01	SPRING, TENSION	
17	X-3326-902-1	PLATE ASSY, BEARING	
18	X-3326-901-1	PLATE ASSY, TOGGLE	
19	3-703-816-12	(BLACK)....SCREW (M1.4X4.0), SPECIAL HEAD	
20	3-326-925-01	(SILVER)...LID, BATTERY CASE	
	3-326-925-11	(BLACK)....LID, BATTERY CASE	
21	*3-326-914-01	BRACKET, STRAP	
22	3-703-816-51	(SILVER)...SCREW (M1.4X3.5), SPECIAL HEAD	
	3-703-816-52	(BLACK)....SCREW (M1.4X3.5), SPECIAL HEAD	
23	3-326-909-01	SPRING, BATTERY	
24	X-3326-910-1	(BLACK)....CABINET, REAR	
	X-3326-911-1	(SILVER)...CABINET, REAR	
25	3-831-441-XX	SPACER, KNOB	
26	3-328-314-01	SHAFT (B), CASSETTE	
27	9-910-815-01	CUSHION	
28	3-703-710-01	STICKER, SONY SYMBOL (12)	
SP901	1-503-489-11	SPEAKER	

(2)



No.	Part No.	Description	Remarks
51	7-627-850-57	SCREW, PRECISION +P 1.4X3.5	
52	7-627-851-17	SCREW, PRECISION +P 1.4X4.5	
53	*3-326-936-01	RETAINER, JACK	
54	3-328-326-01	BUTTON, D	
55	3-324-916-01	KNOB, CONTROL	
56	3-888-156-00	SCREW (1.7X4)	
57	3-703-816-01	SCREW (M1.4X2.0), SPECIAL HEAD	
58	3-328-320-01	BUTTON, REC	
59	3-328-321-01	BUTTON, PLAY	
60	3-328-322-01	BUTTON, REW	
61	3-328-323-01	BUTTON, FF	
62	3-328-324-11	BUTTON, STOP	
63	3-328-334-01	PLATE, INDICATION, D	
64	9-911-839-XX	CUSHION (Z)	
65	*3-326-939-01	PLATE, GROUND	
66	3-703-816-52	(BLACK)...SCREW (M1.4X3.5), SPECIAL HEAD	
67	3-318-203-11	SCREW (B1.7X6), TAPPING	
68	3-703-816-01	SCREW (M1.4X2.0), SPECIAL HEAD	
69	3-703-816-42	(BLACK)...SCREW (M1.4X2.5), SPECIAL HEAD	
70	*3-328-359-01	LEVER (R), ERASING PROTECTION	
71	3-328-440-01	SLIDER (R), ERASING PROTECTION	
72	*3-328-407-01	SLIDER (R), REC PREVENTION	
73	3-328-360-01	SPRING, TENSION	
74	*3-326-923-01	PLATE, BLIND	
75	X-3326-904-1	BRACKET ASSY, TERMINAL	
76	3-326-921-01	SPRING, TENSION	
77	*3-326-941-01	(E)...LABEL, POLARITY	
78	3-326-908-01	TERMINAL BOARD	
79	9-911-816-01	RIBBON, BATTERY	
80	3-326-934-01	CABINET (FRONT)	
81	X-3328-334-1	CHASSIS ASSY, MOLD	
82	3-556-221-00	PLATE, ORNAMENTAL	
83	3-527-213-00	LABEL, SERIAL NUMBER	
84	3-328-474-01	SHAFT, SLIDER (R)	
85	*3-326-955-01	PAPER, SHIELD, DIRECTION	
86	3-326-957-01	PAPER (A), CONDUCTIVE	
87	*3-326-954-01	PAPER, SHIELD, ELECTROSTATIC	
88	*3-326-956-01	PAPER(B), SHIELD, ELECTROSTATIC	
89	3-328-472-01	SPRING	
901	A-3015-380-A	PC BOARD COMPLETE ASSY, AUDIO	
902	*1-616-013-11	PC BOARD, LED	
903	1-616-014-11	PC BOARD, HEAD FLEXIBLE	
CNJ901	1-536-861-11	TERMINAL BOARD (B)	

(3)

No.	Part No.
101	3-325-38
102	X-3325-2
103	X-3325-2
104	3-321-48
105	3-321-48
106	3-328-40
107	3-328-37
108	3-328-36
109	3-590-76
110	X-3328-3
111	A-3163-1
112	3-328-41
113	3-703-50
114	X-3328-3
115	3-325-35
116	3-318-10
117	3-703-50
118	3-328-38
119	3-328-35
120	3-328-35
121	3-328-37
122	3-328-47
123	7-627-55
124	3-578-25
125	A-3163-1
126	3-328-41
127	3-328-39

an assembled
collation (2)
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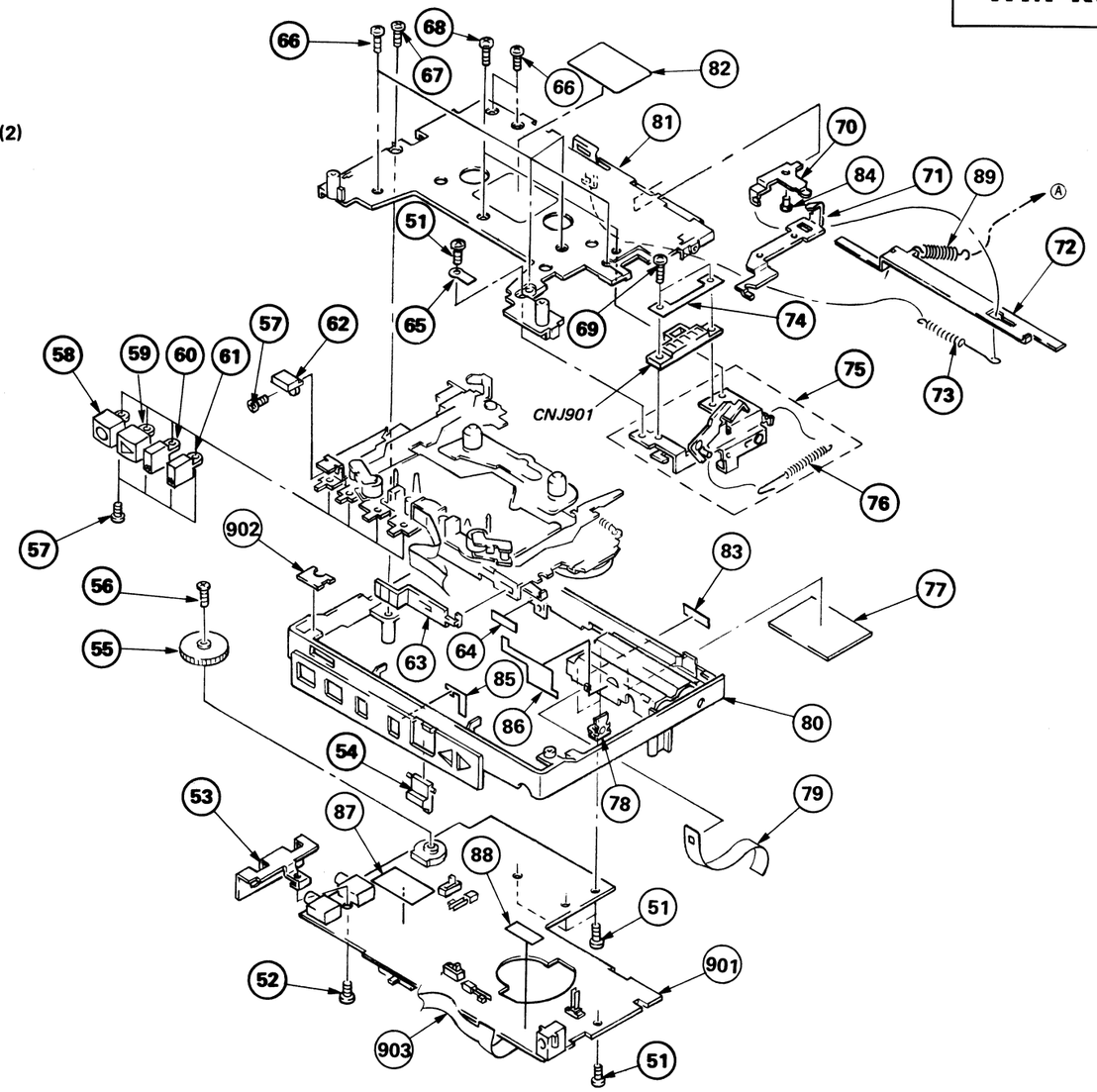
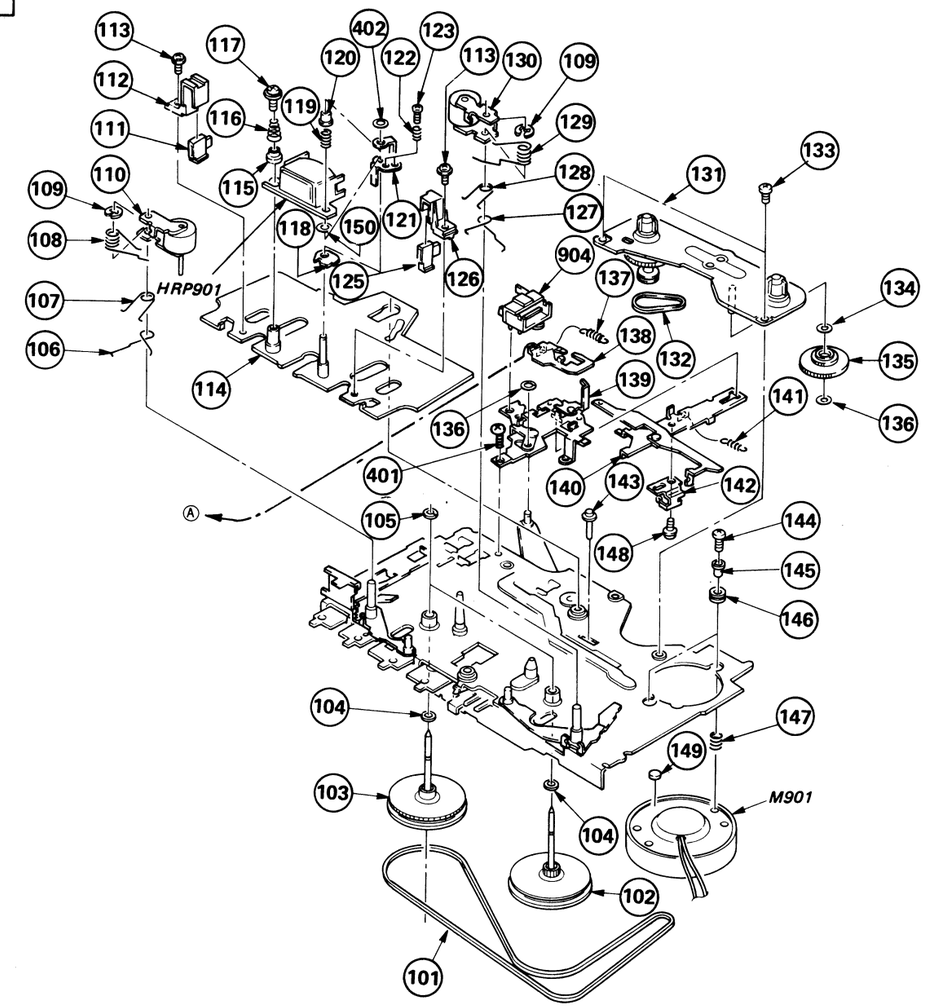


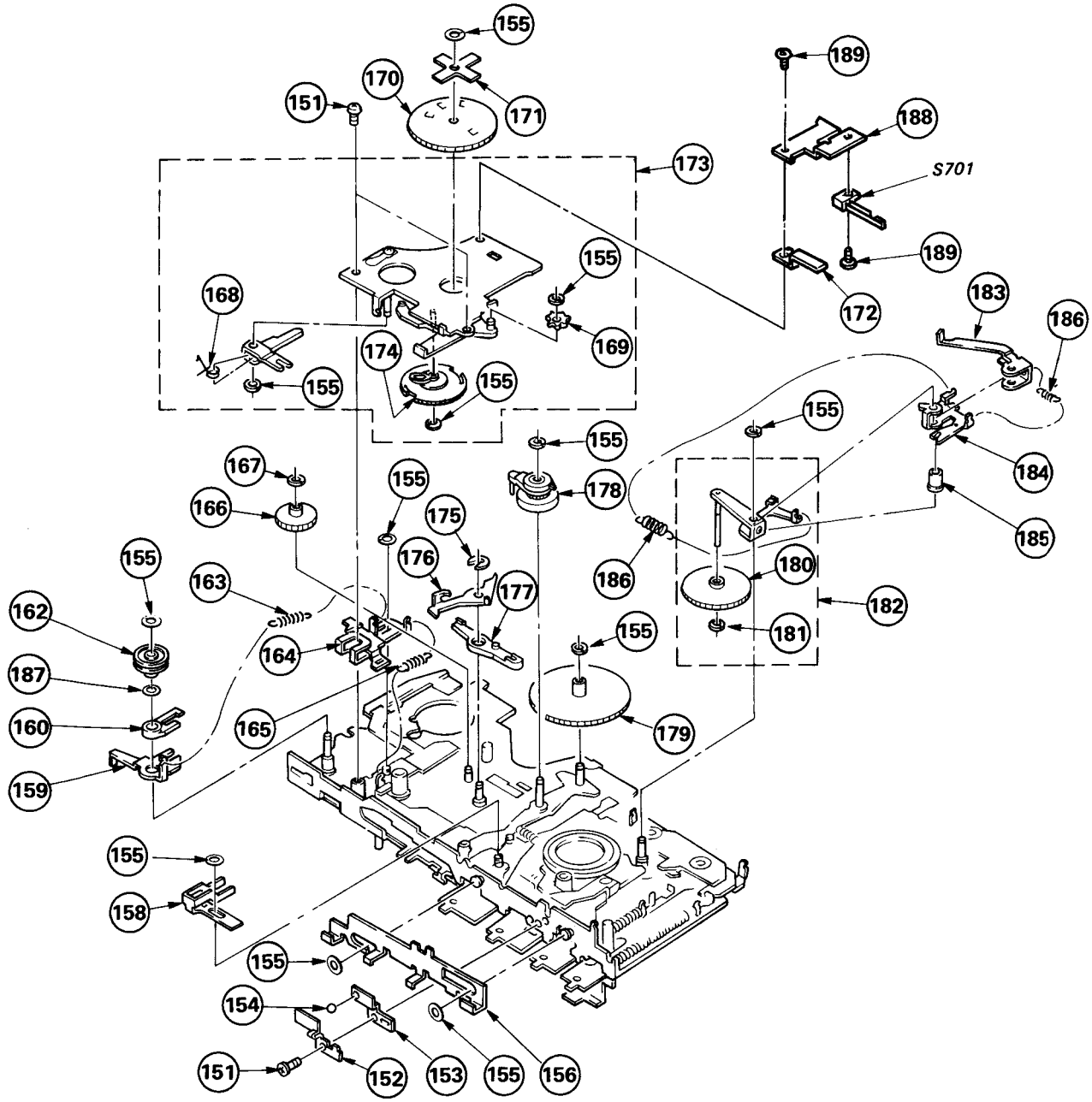
No.	Part No.	Description	Remarks
51	7-627-850-57	SCREW, PRECISION +P 1.4X3.5	
52	7-627-851-17	SCREW, PRECISION +P 1.4X4.5	
53	*3-326-936-01	RETAINER, JACK	Remarks
54	3-328-326-01	BUTTON, D	
55	3-324-916-01	KNOB, CONTROL	
56	3-888-156-00	SCREW (1.7X4)	
57	3-703-816-01	SCREW (M1.4X2.0), SPECIAL HEAD	PECIAL HEAD
58	3-328-320-01	BUTTON, REC	
59	3-328-321-01	BUTTON, PLAY	
60	3-328-322-01	BUTTON, REW	
61	3-328-323-01	BUTTON, FF	
62	3-328-324-11	BUTTON, STOP	PECIAL HEAD
63	3-328-334-01	PLATE, INDICATION, D	PECIAL HEAD
64	9-911-839-XX	CUSHION (Z)	
65	*3-326-939-01	PLATE, GROUND	
66	3-703-816-52	(BLACK)...SCREW (M1.4X3.5), SPECIAL HEAD	
67	3-318-203-11	SCREW (B1.7X6), TAPPING	
68	3-703-816-01	SCREW (M1.4X2.0), SPECIAL HEAD	
69	3-703-816-42	(BLACK)...SCREW (M1.4X2.5), SPECIAL HEAD	
70	*3-328-359-01	LEVER (R), ERASING PROTECTION	
71	3-328-440-01	SLIDER (R), ERASING PROTECTION	
72	*3-328-407-01	SLIDER (R), REC PREVENTION	
73	3-328-360-01	SPRING, TENSION	
74	*3-326-923-01	PLATE, BLIND	
75	X-3326-904-1	BRACKET ASSY, TERMINAL	
76	3-326-921-01	SPRING, TENSION	
77	*3-326-941-01	(E)...LABEL, POLARITY	
78	3-326-908-01	TERMINAL BOARD	
79	9-911-816-01	RIBBON, BATTERY	
80	3-326-934-01	CABINET (FRONT)	
81	X-3328-334-1	CHASSIS ASSY, MOLD	
82	3-556-221-00	PLATE, ORNAMENTAL	
83	3-527-213-00	LABEL, SERIAL NUMBER	
84	3-328-474-01	SHAFT, SLIDER (R)	
85	*3-326-955-01	PAPER, SHIELD, DIRECTION	
86	3-326-957-01	PAPER (A), CONDUCTIVE	
87	*3-326-954-01	PAPER, SHIELD, ELECTROSTATIC	
88	*3-326-956-01	PAPER(B), SHIELD, ELECTROSTATIC	
89	3-328-472-01	SPRING	
901	A-3015-380-A	PC BOARD COMPLETE ASSY, AUDIO	
902	*1-616-013-11	PC BOARD, LED	
903	1-616-014-11	PC BOARD, HEAD FLEXIBLE	
CNJ901	1-536-861-11	TERMINAL BOARD (B)	

(3)



No.	Part No.	Description	Remarks
101	3-325-387-01	BELT	
102	X-3325-207-1	FLYWHEEL (F) ASSY	
103	X-3325-213-1	FLYWHEEL (R) ASSY	
104	3-321-489-01	WASHER	
105	3-321-483-01	RING, RETAINING	
106	3-328-403-01	SPRING (F)	
107	3-328-372-01	SPRING (F)	
108	3-328-367-01	SPRING (FC)	
109	3-590-768-00	RING (A), E	
110	X-3328-332-1	PINCH LEVER (F) ASSY	
111	A-3163-109-A	HOLDER (F) SUB ASSY, E	
112	3-328-410-01	GUIDE (F), E	
113	3-703-502-22	SCREW 1.4X2.5	
114	X-3328-316-1	CHASSIS ASSY, HEAD	
115	3-325-358-01	COLLAR, AZIMUTH	
116	3-318-106-01	SPRING (H), COMPRESSION	
117	3-703-502-12	SCREW 1.4X2	
118	3-328-386-01	RETAINER, SCREW, ADJUSTMENT	
119	3-328-351-01	SPRING, COMPRESSION	
120	3-328-350-01	SPACER, HEAD SHAFT SPRING	
121	3-328-378-01	LEVER, AZIMUTH	
122	3-328-475-01	SPRING, COMPRESSION	
123	7-627-551-38	SCREW, PRECISION +P 1.4X5	
124	3-578-254-00	RING, RETAINING, E1.2	
125	A-3163-108-A	HOLDER (R) SUB ASSY, E	
126	3-328-411-01	GUIDE (R), E	
127	3-328-394-01	SPRING (R)	
128	3-328-371-01	SPRING (R)	
129	3-328-368-01	SPRING (RC)	
130	X-3328-313-1	PINCH LEVER (R) ASSY	
131	X-3328-319-1	TABLE ASSY, REEL	
132	3-328-379-01	BELT, COUNTER	
133	3-703-816-32	SCREW (M1.4X1.6), SPECIAL HEAD	
134	3-701-441-11	WASHER	
135	X-3328-315-1	GEAR (B) ASSY, T	
136	3-570-615-00	POLY-WASHER (DIA.1.2)	
137	3-328-472-01	SPRING, TENSION	
138	3-328-364-01	SLIDER (F), REC PREVENTION	
139	*X-3328-329-1	BRACKET ASSY, COUNTER	
140	*X-3328-330-1	LEVER (B) ASSY, REC	
141	3-561-626-00	SPRING, TENSION	
142	*3-328-443-01	SPRING	
143	3-328-402-01	SHAFT (B), SLIDE	
144	7-627-552-48	SCREW, PRECISION +P 1.7X4	
145	3-325-385-01	SPACER, MOTOR	
146	3-570-770-00	CUSHION (A), MOTOR	
147	3-558-662-01	SPRING, COMPRESSION	
148	3-703-502-12	SCREW 1.4X2	
149	3-570-937-00	CUSHION (C), MOTOR	
150	3-315-495-51	WASHER	
401	3-703-816-01	SCREW (M1.4X2.0), SPECIAL HEAD	
402	3-578-242-11	WASHER	
904	1-548-582-11	COUNTER, TAPE (SMALL TYPE)	

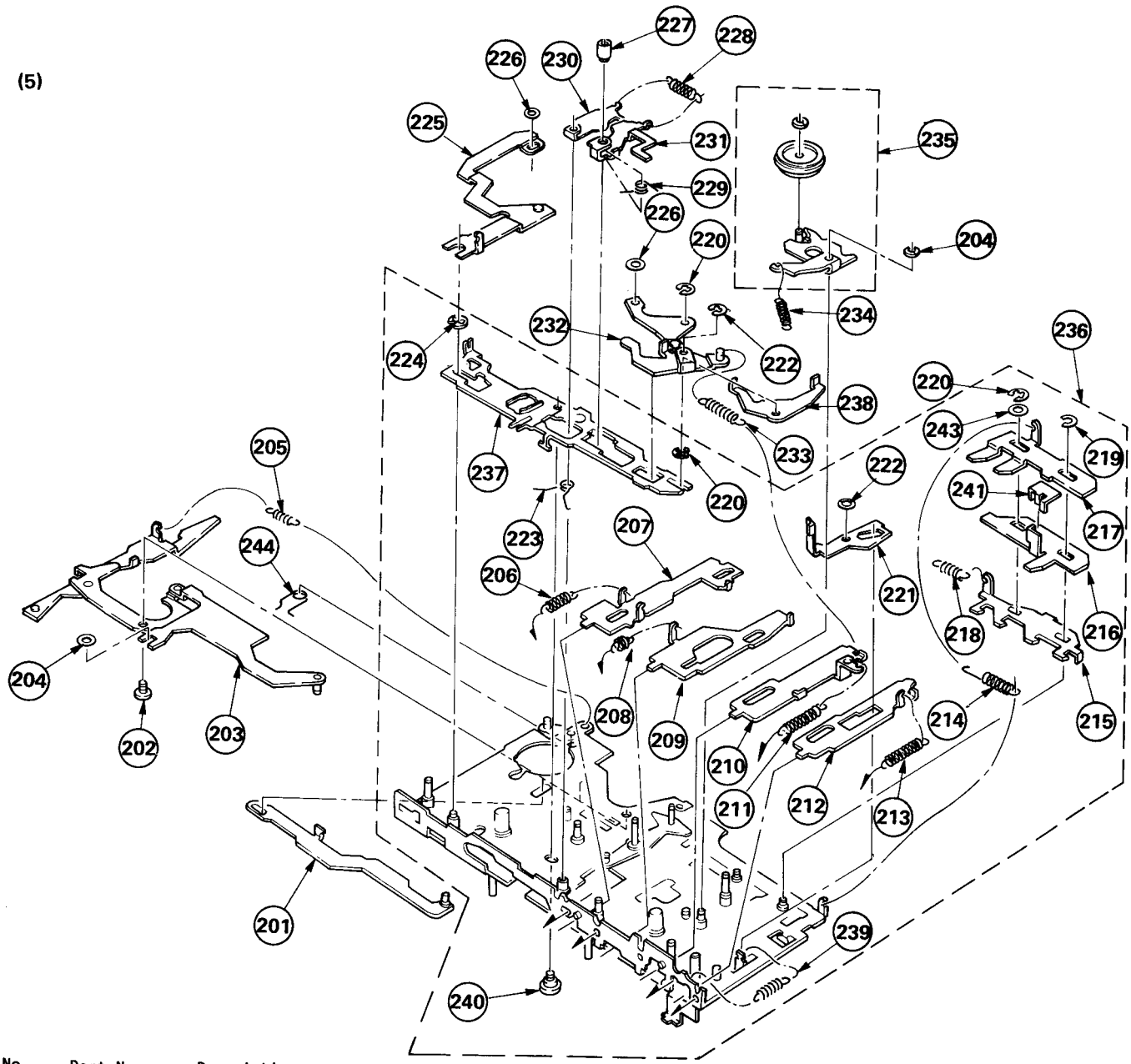
(4)



No.	Part No.	Description	Remarks
151	3-703-816-32	SCREW (M1.4X1.6), SPECIAL HEAD	
152	3-328-427-01	SPRING	
153	3-328-426-01	HOLDER, CLICK	
154	7-671-111-11	STEEL, BOUL 1.5MM	
155	3-570-615-00	POLY-WASHER (DIA.1.2)	
156	3-328-431-01	PLATE, LOCK, SAFETY	
158	3-328-454-01	SPRING	
159	3-328-395-01	LEVER (A), FWD RETURN	
160	3-328-396-01	LEVER, RETURN SW	
162	3-324-945-01	PULLEY, MIDWAY	
163	3-328-471-01	SPRING, TENSION	
164	*X-3328-333-1	SLIDER ASSY, RETURN	
165	3-328-439-01	SPRING, TENSION	
166	3-325-323-01	GEAR, CAM	
167	3-325-394-01	WASHER, STOPPER	
168	3-328-352-01	SPRING	
169	3-324-967-01	GEAR, MODE CHANGE	
170	3-324-949-01	GEAR, SHUT OFF	

No.	Part No.	Description	Remarks
171	3-328-447-01	SPRING	
172	*3-326-940-01	REINFORCEMENT	
173	A-3039-152-A	PC BOARD COMPLETE ASSY, D	
174	3-325-363-01	GEAR, D	
175	3-325-386-01	RING (A), C	
176	3-328-342-01	LEVER, SHUT OFF	
177	3-325-326-01	LEVER (B), SHUT-OFF	
178	X-3324-921-1	LIMITER ASSY, FWD	
179	3-325-324-01	GEAR, IDLER	
180	3-324-947-01	GEAR, FR	
181	3-315-384-11	WASHER, STOPPER	
182	*X-3328-325-1	LEVER ASSY, FR GEAR	
183	3-328-448-01	LEVER (B), CENTER RETURN	
184	3-328-435-01	LEVER, PREVENTION, SHUT-OFF	
185	3-328-344-01	COLLAR, PREVENTION, S	
186	3-328-438-01	SPRING, TENSION	
187	3-328-432-01	WASHER, STOPPER	
188	3-326-963-01	BRACKET, SW	
189	7-627-850-17	SCREW P1.4X2.5	

(5)



No.	Part No.	Description	Remarks
201	X-3324-923-1	SLIDER ASSY, SHUT-OFF	
202	3-328-436-01	SHAFT, LEVER (C), REC	
203	*X-3328-318-1	LEVER (C) ASSY, REC	
204	3-578-224-21	WASHER	
205	3-547-668-00	SPRING, TENSION	
206	3-325-350-01	SPRING, TENSION (POWER TENSION)	
207	*3-325-365-21	LEVER, FF	
208	3-325-345-01	SPRING, TENSION (POWER TENSION)	
209	3-325-325-21	LEVER, REW	
210	*3-328-449-01	LEVER (C), FWD	
211	3-328-354-01	SPRING, TENSION	
212	*3-328-408-01	LEVER, REC	
213	3-308-704-00	SPRING, TENSION	
214	3-328-353-01	SPRING, TENSION	
215	*3-328-451-01	PLATE (C), LOCK	
216	*3-328-452-01	LEVER (C), SWITCH	
217	*3-328-450-01	LEVER (FR), SWITCH	
218	3-570-552-00	SPRING, TENSION	
219	3-325-386-01	RING (A), C	
220	3-590-768-00	RING (A), E	
221	*3-328-482-01	LEVER, RELEASE, PAUSE	
222	3-578-254-00	RING, RETAINING, E1.2	

No.	Part No.	Description	Remarks
223	3-325-341-01	SPRING	
224	7-624-104-04	STOP RING 2.0, TYPE -E	
225	*X-3328-328-1	LEVER ASSY, MODE SELECTION	
226	3-570-615-00	POLY-WASHER (DIA.1.2)	
227	3-325-263-01	COLLAR (B), IDLER	
228	3-328-476-01	SPRING, TENSION	
229	3-328-473-01	SPRING	
230	3-325-265-01	LEVER (C), IDLER	
231	*3-328-433-01	LEVER (D), IDLER	
232	*X-3328-308-1	LEVER (D) ASSY, H	
233	3-328-345-01	SPRING, TENSION	
234	3-325-348-01	SPRING, TENSION	
235	X-3324-931-1	IDLER, COMPLETE ASSY, FWD	
236	A-3039-153-A	LEVER ASSY, CONTROL	
237	*X-3328-312-2	SLIDER ASSY, D	
238	3-328-341-01	LEVER (A), RETURN, CENTER	
239	3-325-347-01	SPRING, TENSION	
240	3-328-393-01	SCREW, D SLIDER	
241	*3-326-961-01	COVER, SW LEVER	
243	3-701-437-01	WASHER	
244	3-328-358-01	SPRING	

NOTE:
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
901	A-3015-380-A	PC BOARD COMPLETE ASSY, AUDIO			
902	*1-616-013-11	PC BOARD, LED			
903	1-616-014-11	PC BOARD, HEAD FLEXIBLE			
904	1-548-582-11	COUNTER, TAPE (SMALL TYPE)			
C101	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C102	1-124-499-11	ELECT	1MF	20%	50V
C103	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C104	1-124-432-00	ELECT	47MF	20%	4V
C105	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C106	1-163-012-00	CERAMIC CHIP	0.0018MF	10%	50V
C107	1-163-074-00	CERAMIC CHIP	0.033MF	10%	25V
C108	1-135-091-00	TANTAL. CHIP	1MF	10%	16V
C109	1-124-438-00	ELECT	1MF	20%	50V
C110	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C111	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C112	1-135-073-00	TANTAL. CHIP	0.33MF	10%	35V
C113	1-163-021-00	CERAMIC CHIP	0.01MF	5%	50V
C114	1-135-087-21	TANTAL. CHIP	0.68MF	10%	20V
C115	1-135-070-00	TANTAL. CHIP	0.1MF	10%	35V
C116	1-124-461-11	ELECT	4.7MF	20%	16V
C117	1-135-072-21	TANTAL. CHIP	0.22MF	10%	35V
C118	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C119	1-163-003-00	CERAMIC CHIP	330PF	10%	50V
C120	1-124-432-00	ELECT	47MF	20%	4V
C121	1-127-504-00	ELECT(SOLID)	0.47MF	20%	25V
C122	1-124-434-00	ELECT	220MF	20%	4V
C123	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C201	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C202	1-124-499-11	ELECT	1MF	20%	50V
C203	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C204	1-124-432-00	ELECT	47MF	20%	4V
C205	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C206	1-163-012-00	CERAMIC CHIP	0.0018MF	10%	50V
C207	1-163-074-00	CERAMIC CHIP	0.033MF	10%	25V
C208	1-135-091-00	TANTAL. CHIP	1MF	10%	16V
C209	1-124-438-00	ELECT	1MF	20%	50V
C210	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C211	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C212	1-135-073-00	TANTAL. CHIP	0.33MF	10%	35V
C213	1-163-021-00	CERAMIC CHIP	0.01MF	5%	50V
C214	1-135-087-21	TANTAL. CHIP	0.68MF	10%	20V
C215	1-135-070-00	TANTAL. CHIP	0.1MF	10%	35V
C216	1-124-461-11	ELECT	4.7MF	20%	16V
C217	1-135-072-21	TANTAL. CHIP	0.22MF	10%	35V
C218	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C219	1-163-003-00	CERAMIC CHIP	330PF	10%	50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C220	1-124-432-00	ELECT	47MF	20%	4V
C221	1-127-504-00	ELECT(SOLID)	0.47MF	20%	25V
C222	1-124-434-00	ELECT	220MF	20%	4V
C223	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C301	1-124-434-00	ELECT	220MF	20%	4V
C302	1-124-432-00	ELECT	47MF	20%	4V
C303	1-131-392-00	TANTALUM	33MF	20%	3.15V
C304	1-124-430-00	ELECT	22MF	20%	4V
C305	1-124-430-00	ELECT	22MF	20%	4V
C306	1-124-434-00	ELECT	220MF	20%	4V
C307	1-124-434-00	ELECT	220MF	20%	4V
C308	1-124-433-00	ELECT	100MF	20%	4V
C309	1-124-431-00	ELECT	33MF	20%	4V
C310	1-124-431-00	ELECT	33MF	20%	4V
C311	1-124-434-00	ELECT	220MF	20%	4V
C312	1-131-394-00	TANTALUM	68MF	20%	3.15V
C313	1-124-432-00	ELECT	47MF	20%	4V
C314	1-124-430-00	ELECT	22MF	20%	4V
C315	1-127-504-00	ELECT(SOLID)	0.47MF	20%	25V
C316	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C317	1-163-021-00	CERAMIC CHIP	0.01MF	10%	50V
C318	1-163-081-00	CERAMIC CHIP	0.22MF		25V
C401	1-106-188-00	MYLAR	0.0047MF	5%	100V
C402	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C403	1-124-432-00	ELECT	47MF	20%	4V
C404	1-124-461-11	ELECT	4.7MF	20%	16V
C405	1-124-435-00	ELECT	10MF	20%	6.3V
C406	1-124-437-00	ELECT	2.2MF	20%	35V
C407	1-163-141-00	CERAMIC CHIP	0.001MF	10%	50V
C408	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C601	1-124-461-11	ELECT	4.7MF	20%	16V
C602	1-124-436-00	ELECT	3.3MF	20%	25V
CN301	1-507-723-00	JACK, EXTENTION POWER			
CNJ901	1-536-861-11	TERMINAL BOARD (B)			
D301	8-719-101-23	DIODE 1SS123			
D302	8-719-911-19	DIODE 1SS119			
D401	8-719-912-43	DIODE SLP178B			
D701	8-719-104-37	DIODE SR506D (REC/BATT)			
HRP901	8-825-537-51	HEAD, REC/PB (PP238-3604D)			
IC301	8-759-907-36	IC CX20023			
IC302	8-759-908-08	IC CX20085			
IC303	8-759-910-71	IC BA5208AF			
IC601	8-759-400-12	IC AN6612S			
J301	1-507-917-21	JACK, STEREO			
J302	1-562-785-11	JACK			

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
L101	1-410-196-11	INDUCTOR CHIP	2.2UH		
L201	1-410-196-11	INDUCTOR CHIP	2.2UH		
L301	1-410-196-11	INDUCTOR CHIP	2.2UH		
M901	8-835-150-01	MOTOR, DC (MNR-8000B)			
Q301	8-729-100-66	TRANSISTOR 2SC1623			
Q302	8-729-100-76	TRANSISTOR 2SA812			
Q303	8-729-100-66	TRANSISTOR 2SC1623			
Q304	8-729-900-98	TRANSISTOR DTC143TK			
Q305	8-729-100-66	TRANSISTOR 2SC1623			
Q306	8-729-900-52	TRANSISTOR DTC114YK			
Q307	8-729-100-76	TRANSISTOR 2SA812			
Q308	8-729-801-93	TRANSISTOR 2SD1387			
Q309	8-729-801-93	TRANSISTOR 2SD1387			
Q310	8-729-100-76	TRANSISTOR 2SA812			
Q311	8-729-100-66	TRANSISTOR 2SC1623			
Q312	8-729-100-66	TRANSISTOR 2SC1623			
Q401	8-729-100-66	TRANSISTOR 2SC1623			
Q403	8-729-100-66	TRANSISTOR 2SC1623			
Q404	8-729-100-76	TRANSISTOR 2SA812			
Q405	8-729-900-51	TRANSISTOR DTA114TK			
Q406	8-729-100-66	TRANSISTOR 2SC1623			
Q407	8-729-100-66	TRANSISTOR 2SC1623			
Q408	8-729-900-51	TRANSISTOR DTA114TK			
Q409	8-729-100-66	TRANSISTOR 2SC1623			
Q601	8-729-801-83	TRANSISTOR 2SB1013			
Q602	8-729-100-66	TRANSISTOR 2SC1623			
R101	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R102	1-216-073-00	METAL CHIP	10K	5%	1/10W
R103	1-216-043-00	METAL CHIP	560	5%	1/10W
R104	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R105	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R106	1-216-105-00	METAL CHIP	220K	5%	1/10W
R107	1-216-049-00	METAL CHIP	1K	5%	1/10W
R108	1-216-073-00	METAL CHIP	10K	5%	1/10W
R109	1-216-052-00	METAL CHIP	1.3K	5%	1/10W
R110	1-216-075-00	METAL CHIP	12K	5%	1/10W
R111	1-216-099-00	METAL CHIP	120K	5%	1/10W
R112	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R113	1-216-037-00	METAL CHIP	330	5%	1/10W
R114	1-216-011-00	METAL CHIP	27	5%	1/10W
R201	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R202	1-216-073-00	METAL CHIP	10K	5%	1/10W
R203	1-216-043-00	METAL CHIP	560	5%	1/10W
R204	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R205	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R206	1-216-105-00	METAL CHIP	220K	5%	1/10W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R207	1-216-049-00	METAL CHIP	1K	5%	1/10W
R208	1-216-073-00	METAL CHIP	10K	5%	1/10W
R209	1-216-052-00	METAL CHIP	1.3K	5%	1/10W
R210	1-216-075-00	METAL CHIP	12K	5%	1/10W
R211	1-216-099-00	METAL CHIP	120K	5%	1/10W
R212	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R213	1-216-037-00	METAL CHIP	330	5%	1/10W
R214	1-216-011-00	METAL CHIP	27	5%	1/10W
R301	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R302	1-216-125-00	METAL CHIP	1.5M	5%	1/10W
R303	1-216-073-00	METAL CHIP	10K	5%	1/10W
R304	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R305	1-216-083-00	METAL CHIP	27K	5%	1/10W
R306	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R308	1-216-049-00	METAL CHIP	1K	5%	1/10W
R309	1-216-033-00	METAL CHIP	220	5%	1/10W
R310	1-216-073-00	METAL CHIP	10K	5%	1/10W
R311	1-216-073-00	METAL CHIP	10K	5%	1/10W
R313	1-216-085-00	METAL CHIP	33K	5%	1/10W
R314	1-216-033-00	METAL CHIP	220	5%	1/10W
R315	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R316	1-216-117-00	METAL CHIP	680K	5%	1/10W
R317	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R318	1-216-073-00	METAL CHIP	10K	5%	1/10W
R319	1-216-049-00	METAL CHIP	1K	5%	1/10W
R320	1-216-049-00	METAL CHIP	1K	5%	1/10W
R321	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R323	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R324	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R401	1-216-075-00	METAL CHIP	12K	5%	1/10W
R402	1-216-013-00	METAL CHIP	33	5%	1/10W
R403	1-216-023-00	METAL CHIP	82	5%	1/10W
R404	1-216-025-00	METAL CHIP	100	5%	1/10W
R405	1-216-097-00	METAL CHIP	100K	5%	1/10W
R406	1-216-073-00	METAL CHIP	10K	5%	1/10W
R407	1-216-089-00	METAL CHIP	47K	5%	1/10W
R408	1-216-089-00	METAL CHIP	47K	5%	1/10W
R409	1-216-073-00	METAL CHIP	10K	5%	1/10W
R410	1-216-025-00	METAL CHIP	100	5%	1/10W
R411	1-216-119-00	METAL CHIP	820K	5%	1/10W
R412	1-216-113-00	METAL CHIP	470K	5%	1/10W
R413	1-216-037-00	METAL CHIP	330	5%	1/10W
R414	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R417	1-216-025-00	METAL CHIP	100	5%	1/10W
R601	1-216-073-00	METAL CHIP	10K	5%	1/10W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R602	1-216-301-11	METAL CHIP	2.4	5%	1/10W
R603	1-216-301-11	METAL CHIP	2.4	5%	1/10W
R604	1-216-049-00	METAL CHIP	1K	5%	1/10W
R605	1-216-070-00	METAL CHIP	7.5K	5%	1/10W
R606	1-216-073-00	METAL CHIP	10K	5%	1/10W
R607	1-216-073-00	METAL CHIP	10K	5%	1/10W
RV101	1-230-676-11	RES, ADJ, METAL GLAZE 10K			
RV201	1-230-676-11	RES, ADJ, METAL GLAZE 10K			
RV301	1-230-687-11	RES, VAR, CARBON 10K/10K			
RV601	1-230-437-11	RES, ADJ, CARBON 5K			
S301	1-570-259-11	SWITCH, SLIDE (REC/PB)			
S302	1-570-087-11	SWITCH, SLIDE (PB EQ)			
S303	1-554-669-00	SWITCH, SLIDE (DOLBY NR)			
S304	1-570-259-11	SWITCH, SLIDE (FWD/REV)			
S401	1-570-175-11	SWITCH, LEAF (MOTOR POWER)			
S402	1-570-175-11	SWITCH, LEAF (POWER)			
S403	1-570-315-11	SWITCH, LEAF (DIRECTION)			
S701	1-553-226-00	SWITCH, LEAF (DIRECTION)			
SP901	1-503-489-11	SPEAKER			
T401	1-433-249-00	TRANSFORMER, BIAS OSCILLATOR			
THP601	1-806-800-11	THERMISTOR (POSITIVE)			
THP602	1-807-282-11	THERMISTOR (POSITIVE)			

ACCESSORY & PACKING MATERIAL

Part No.	Description
1-501-344-11	(E)....ANTENNA
1-542-071-11	MICROPHONE (C-3001)
3-320-443-01	BAG, PROTECTION
3-326-943-01	CUSHION (B)
3-326-944-01	BOX, ACCESSORY
3-326-945-01	CUSHION (A)
3-326-946-01	(E,UK).....INDIVIDUAL CARTON
3-326-949-01	(AEP,UK)...INDIVIDUAL CARTON
3-326-959-01	CASE (B), CARRYING
3-326-960-01	CASE (A), CARRYING
3-527-213-00	LABEL, SERIAL NUMBER
3-701-622-00	(AEP)...BAG, POLYETHYLENE
3-703-710-01	STICKER, SONY SYMBOL (12)
3-703-895-01	LABEL, COLOR
3-703-906-01	LABEL, COLOR
3-703-910-01	LABEL, COLOR
3-703-921-01	LABEL, COLOR
3-760-652-11	MANUAL, INSTRUCTION
3-760-652-41	(AEP)...MANUAL, INSTRUCTION
8-951-093-90	(E).....MDR-A20L
8-952-220-90	(AEP,UK)...MDR-E242
X-3321-270-1	(E)....ATTACHMENT ASSY
X-3324-513-1	(E)....STAND ASSY, MICROPHONE

9-951-833-11

Sony Corporation

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